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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jinxing He

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EXAMINER

DANG, KET D

ART UNIT

PAPER NUMBER

4118

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,493	Applicant(s) HE ET AL.	
	Examiner KET DANG	Art Unit 4118	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: In claim 4, "an IQBT tube" is misspelled. The examiner interprets the phrase as "an IGBT (Insulated Gate Bipolar Transistors) tube". It is suggested to correct the phrase "an IGBT tube". Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 5 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In claim 5, "a corresponding computer software" is construed as a computer program per se which is non-statutory subject matter. It is suggested to set forth the "software" as a product that includes code set forth on a tangible computer-readable medium.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 & 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 & 5, "a controlling means for speed" and "a corresponding computer software" elements are unclear to what structure the

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limitations are referring to. The “a corresponding computer software” has to be directly loaded into a memory of a digital computer or include the required tangible medium (e.g., a floppy disc).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 5, & 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lindemann et al. (US Pat No. 5,012,825).

8. Regarding claim 1, Lindemann et al. disclose the punch device (Abstract) comprising: a mechanism for winding and unwinding (See Figure 1, spool); a correcting control unit 31 (Fig. 5); a tension control unit 17 (Fig. 5); a hydraulic mechanism (Col. 8, lines 28-30); a punch mechanism (Abstract); a high frequency and high voltage generator (Col. 8, lines 52-55); a detecting unit (See figure 5 testing device) (Col. 7, lines 61-66); a controlling means for speed (Col. 8, lines 57-60); a pulse frequency and pulse width control (Col. 8, lines 57-60); and a user interface (Only requires the ability to interact with the perforating apparatus such as adding and removing the carts of figure 1); characterized in that the punching mechanism is composed of at least two or more electrode matrixes 52a,b (Fig.5) (Col. 1, lines 18-22); each electrode matrix is made up of a plurality of electrode bars longitudinally arrayed which forms an angle .alpha. with the movement direction of the substrate (Alpha angle can be either zero or ninety

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degrees); wherein each pair of the electrode bars is composed of an anode bar and a cathode bar on either side of the substrate (Col. 1, lines 31-33), and each bar being provided with electrode-pins in the number of M 52a (Fig. 7a) (Col. 11, lines 18-21).

9. Regarding claims 2-3, 5, & 7, Lindemann et al. disclose wherein the movement direction of the substrate crossing the electrode matrixes is vertically downward or upward (Col. 8, lines 48-52) and the axial direction of the positive and negative electrode-pins is horizontal 52a (Fig. 7a) (Col. 11, lines 18-21); wherein the detecting unit (See figure 5 testing device unit) includes a rolling diameter detecting means, a tension detecting means 17 (Fig. 5), and an air permeability detecting means for the substrate (Col. 7, lines 61-66); wherein the controlling means for speed (Col. 8, lines 57-60), pulse frequency and pulse width control includes a single interface for the detecting unit, a computing central processor (Col. 9, lines 20-36), an output interface for signals of speed, an electrical pulse frequency and impulse width, and a corresponding computer software 76 (Fig. 5) (Col. 9, lines 21-36); and wherein the electrode matrix consists of N ($1 \leq N \leq 100$) sets of electrode bars (Col. 1, lines 18-22) and each electrode bar is provided with M ($1 \leq M \leq 50$) electrode-pins 52a (Fig. 7a).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemann et al. (US Pat No. 5,012,825) in view of Schnetzka et al. (US Pat No. 5,898,554)

12. Regarding claim 4, Lindemann et al. disclose the claimed invention, except for wherein the high frequency and high voltage generator generates high power and high frequency voltage with an IQBT tube and a high frequency and high power booster. However, Schnetzka et al. teach wherein the high frequency and high voltage generator generates high power and high frequency voltage with an IQBT tube and a high frequency and high power booster (Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the Lindemann's reference, to include an IQBT tube, as suggested and taught by Schnetzka, for the purpose of controlling high current and high voltage with conventional circuit components (Col. 1, lines 40-47).

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemann et al. (US Pat No. 5,012,825) in view of Hollinetz (US Pat No. 4,501,953).

14. Regarding claim 6, Lindemann et al. disclose the claimed invention, except for wherein the angle α between the electrode bars and the movement direction of the substrate may be changed by adjusting the position of either end of the electrode bars. However, Hollinetz teaches wherein the angle α between the electrode bars and the movement direction of the substrate may be changed by adjusting the position of either end of the electrode bars (Col. 2, lines 48-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the

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Lindemann's reference, to include position of the electrodes, as suggested and taught by Hollinetz, for the purpose of providing measures which result in a highly uniform permeability to air (Col. 1, lines 46-52).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fujii et al. (US Pat No. 3,475,591) disclose apparatus for electrically perforating cigarette paper. Schmidt-Kufek et al. disclose Arrangement for effecting the superfine perforating of film-like sheeting with the aid of high-voltage pulses. And Brown et al. (US Pat No. 4,314,142) discloses spatially distributed electrostatic perforation of moving webs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET DANG whose telephone number is (571)270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quang Thanh can be reached on (571)272-4982. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quang D. Thanh/
Supervisory Patent Examiner, Art
Unit 4118

/K.D./
Examiner Art Unit 4118